V. Walbot L

STANFORD UNIVERSITY
STANFORD, CALIFORNIA 94305-5020

DEPARTMENT OF BIOLOGICAL SCIENCES

14 July 1990

Professor Joshua Lederberg
Suite 400, Founder's Hall
The Rockefeller University
1230 York Avenue
New York, NY 10021-6399

Dear Professor Lederberg,

in reply to your letter on transposon regulation

Thank you for your letter and interest in our work. As you pointed out, McClintock suggested that the dosage of *Ac* transposase (modern interpretation) was important in the timing of excision. The relationship she observed has been replicated in some additional experiments, but others have found no correlation between *Ac* "genetic" dosage (mapped sites of active *Ac* elements) and the timing of activity (Drew Schwartz; Paul Chomet). The reason for the discrepancy among lines (rather than between geneticists) is unclear.

The other aspect of a change of timing is that we are not particularly good at integrating spot size and frequency. If the frequency of excision is substantially decreased (McClintock's observation with high *Ac* dosage) is the size distribution really changed? In most materials, large events such as half-kernels are quite rare. If the absolute frequency is decreased 10-fold or more they may not be observed at all in the same size kernel

population. Although we do not usually work with *Ac* we are hoping to analyze the actual size distribution in materials supplied by others. To date, no one has been able to supply one, two and three doses of *Ac* with the reporter allele at 3 doses; that is, in material in which the dosage of the responding allele is kept constant. This would seem the most appropriate material to specifically measure the impact of *Ac* on timing of excision from that allele.

Thank you for a copy of your article on preadaptive mutation. I took the liberty of posting your announcement of a postdoctoral opportunity so that our graduate students can see it.

Sincerely yours,

Virginia Walbot

Virginia Walbot
Professor